IN THE UNITED STATES PATENT & TRADEMARK OFFICE
UTILITY PATENT APPLICATION TRANSMITTAL UNDER 37 CFR §1.53(b)

To: Assistant Commissioner for Patents   Docket No.:   11559STUS02U
Box Patent Application
Washington, D.C. 20231, USA   Inventor(s):   John C. MYERS et al.

The following are enclosed for filing this nonprovisional application relating to:

TELEPHONE BASED ACCESS TO INSTANT MESSAGING

☐ CONTINUING APPLICATION. This is a ☐ Continuation ☐ Divisional ☐ Continuation-in-part
of prior Application No. _____

    ☐ A Certified Copy of the application(s) from which this application claims priority under 35 U.S.C. §119 has been filed in the prior application identified above.

    ☐ Copy of assignment(s) to Nortel Networks, recorded with respect to the prior application identified above.

☒ Specification, including Claims and Abstract   Pages: ___13___

☒ Drawings   Sheets: ___3___

☒ Oath or Declaration   Pages: ___1___

    ☒ New

or ☐ Copy from the prior application identified above (for cont./div., 37 CFR §1.63(d))

    ☐ Signed statement attached deleting inventor(s) named in the prior application

    ☐ The entire disclosure of the prior application is considered as being part of the disclosure of the accompanying application and is hereby incorporated therein by reference.

☐ Certified Copy of Priority Document (if foreign priority is claimed)

☐ Assignment Papers (cover sheet(s) and document(s)). Please record and return to the undersigned.

☐ Information Disclosure Statement (IDS)/PTO-1449   ☐ Copies of IDS Citations

☐ Preliminary Amendment. Fees are calculated below after entry of any preliminary amendment.

☒ Return Receipt Postcard

☐ Other:

FEES:

Basic Fee:				$710.00
Assignment(s):		___ x $40.00 =		
☐ Multiple Dependent Claims				
Total Claims:	54 - 20 =	34	x $18.00 =	$612.00
Independent Claims:	4 - 3 =	1	x $80.00 =	$80.00

TOTAL FEE: **$1402.00**

The Assistant Commissioner is hereby authorized to charge the following fees, and to charge any additional fees which may be required or credit any overpayment, to **Deposit Account No. 14-1315:**

    ☒ Fees required under 37 CFR §1.116 including the Total Fee calculated above.

    ☐ Fees required under 37 CFR §1.117 (Patent Application Processing Fees).

CORRESPONDENCE ADDRESS:
Dallas F. Smith
NORTEL NETWORKS LIMITED
Intellectual Property Law Group
P.O. Box 3511, Station "C"
Ottawa, Ontario, Canada K1Y 4H7
Phone: 613-768-3014
Fax: 613-768-3017
Date: November 7, 2000

Yours very truly
John C. MYERS et al.

By   Dallas F. Smith,
Patent Agent
Registration No. 34,074

TELEPHONE BASED ACCESS TO INSTANT MESSAGING

Field Of The Invention

The present invention relates to telephone based access to
instant messaging and is particularly concerned with instant messaging
in data networks.

Background Of The Invention

The Internet in addition to providing e-mail and easy access
to information world-wide has provided an increasingly popular form of
communication known as "instant messaging". Instant messaging
allows the exchange of messages with others currently logged onto
the Internet. This is similar to the kind of messaging that used to be
available to other types of network users, including mainframe
computer users and LAN users, but due to the wide-spread use of the
Internet, instant messaging on the Internet has a much broader reach
than did previously available forms of instant messaging.
Understandably, users are becoming attached to the immediacy and
value of Internet instant messaging. Unfortunately instant messaging
is only available when the user has an Internet connection.

Multi-media wireless telephones have been developed to
increase a user's flexibility in accessing the Internet, however these
wireless telephones may not work everywhere and have an associated
expense in requiring additional equipment. There have also been
increasing numbers of public Internet access terminals. However, as
yet these are not universally available and have an associated cost per
use.

Hence there is a need to provide an alternative form of access
to data network instant messaging and particularly to Internet instant
messaging.

Summary Of The Invention

An object of the present invention is to provide an
improved method and apparatus for accessing data networking instant
messaging.

According to the present invention instant messaging can
be accessed via a telephone.

An embodiment of the invention provides instant messaging access from any telephone in the world via a telephone messaging system. Alternatively, the present invention can be embodied independently as a stand-alone telephone service, for

5   example provided by a telephone company, provided by an company network, or provided by a user's personal IVR service implemented on his PC.

According to an aspect of the present invention there is provided a voice (telephone) based client providing access into instant

10   messaging.

An advantage of the present invention is providing access to data network instant messaging from a telephone.

Brief Description Of The Drawings

15   The present invention will be further understood from the following detailed description, with reference to the drawings in which:

Fig. 1 illustrates a communications system incorporating an embodiment of the present invention;

20   Fig. 2 illustrates the voice messaging system capable of providing voice access to Internet instant messaging of Fig. 1; and

Fig. 3 illustrates a data communications network including a second embodiment of the present invention.

25   Detailed Description

Referring to Fig. 1, there is illustrated a communications system incorporating an embodiment of the present invention. The communications system 10 includes a telephone network 12 including telephone user 14 and a data network 16, that may include the

30   Internet, including a user PC 18 connected thereto. A messaging system 20 includes an interface 22 to the telephone network 12 and a network interface card 24 coupled to the data network 16. The telephone user 14 accesses the messaging system 20 via the telephone network 12. The messaging system includes typical

35   functions such as speech recognition, interactive voice response (IVR), voice messaging and, in accordance with an embodiment of the present invention, voice access to instant messaging.

Referring to Fig. 2 there is illustrated the voice messaging system (VMS) capable of providing the voice access to Internet instant messaging of Fig. 1. The voice messaging system 20 is a collection of software components capable of using a desired hardware platform to

5 produce desired applications for end users. The hardware platform is also used as the vehicle to interface with the external world via the public telephone network 12 and the data network and Internet 16.

At the higher level, the voice messaging system is divided into two logical entities: an applications layer 30 and a framework

10 layer 32. The applications layer is responsible for providing end user applications. The applications layer addresses issues related to user interaction such as dealing with voice messages, multimedia messages, recognizing DTMF and voice commands.

The framework layer 32 is a collection of software

15 components that integrate with base software components 34 to provide the needed functionality for building, supporting and operating applications.

The lowest level is the base. The base software components typically act as an intermediary between the higher level

20 software components and a hardware platform, and are similar in function to the operating system in a general purpose computer. The base software hides from the higher level software components the hardware-dependent detail of the target platform. The base provides all the needed call processing functionality (e.g. telephony and signal

25 processing) and computing functionality (e.g. operating system and networking software) to build and support its portfolio of applications.

The present embodiment of voice messaging system includes in telephone applications an instant messaging function 36 having a buddy list 38 and instant messaging protocol 40 similar to those used

30 on PC-based instant messaging applications.

In operation, the voice messaging system instant messaging function accesses buddy list 38 and protocol 40. When a user logs into their voice messaging account via the phone, they can also request a list of their buddies who are logged in, or if desired,

35 optionally the voice messaging system could provide the buddy list automatically at each login. The VMS 20 announces the names of the logged in members of the buddy list, using text-to-speech or pre-

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recorded names for each buddy. The user then indicates, for example
via a command accepted by the speech recognition function or via a
DTMF command, that they wish to send an instant message to one of
the logged in buddies. They then receive a record tone and record a
voice segment (delineated by either the '#' key or silence). This
prompt would then be sent to the logged on buddy as a sound file
(probably .wav) or as a text translation of the spoken voice (assuming
the target buddy was on a PC). Alternatively, a user may select from a
list of predetermined messages, either voice or text.

The target buddy could respond with either a text message
(that would be read via TTS to the phone caller) or a sound clip in
return. The instant messaging function 36 could optionally allow
users to identify themselves at a particular telephone (fixed or
wireless) for a period of time, and receive (and respond to) incoming
instant messages, via techniques used today for remote notification of
voice messages. That is, the VMS 20 makes a call to a user upon
receipt of an instant message, and after appropriate identity
verification, plays an instant message, and allows the user to create
and send a reply. The instant messaging function could also make use
of accessible displays in telephones, either for presenting buddy lists,
or in presenting incoming instant messages.

If the reply arrives during the time the telephone user is
logged onto the voice messaging system 20, the instant messaging
function 36 notifies the telephone user of the reply to the instant
message. The VMS 20 gives the telephone user the option of hearing
the message using text to speech, playing the message if it is a sound
clip or viewing the message if the telephone user's telephone has a
suitable display.

Referring to Fig. 3, there is illustrated a data
communications network including a second embodiment of the
present invention. The data network 50 includes a network server 52
providing a gateway between voice over IP services and the IP data
network 50. In this embodiment, both the telephone user 54 and the
computer user 56 are connected via a data network such as the
Internet. The functions provided by the server are similar to those
described herein above for the voice messaging system.

The present embodiments have been described as they could be implemented as a feature of a telephone messaging system such as Nortel Networks Corporations CallPilot (trademark of Nortel Networks Corporation) and as a server connected to a data network.

5 Alternatively, the present invention could be embodied independently as a stand-alone telephone service, provided by a telephone operating company, provided by a company intranet or private network, or provided by a user's personal IVR service implemented on his PC.

Numerous modifications, variations and adaptations may be

10 made to the particular embodiments of the invention described above without departing from the scope of the invention that is defined in the claims.

WHAT IS CLAIMED IS:

1. A method of accessing instant messaging from a telephone comprising the step of:

 presenting to a telephone user a subset of a predetermined user list, the subset representing users logged onto a data network;

 responsive to the telephone user selecting a particular user from the subset of the predetermined user list, sending a message from the telephone user to the selected data network user using an instant messaging protocol.

2. A method as claimed in claim 1 wherein the step of presenting occurs upon receipt of a predetermined command from the telephone user.

3. A method as claimed in claim 2 wherein the step of presenting includes voice synthesizing names on the user list.

4. A method as claimed in claim 2 wherein the step of presenting includes playing back prerecorded names on the user list.

5. A method as claimed in claim 2 wherein the step of presenting includes displaying names on the user list on a display associated with the telephone.

6. A method as claimed in claim 1 wherein the step of presenting occurs automatically upon login by the telephone user.

7. A method as claimed in claim 6 wherein the step of presenting includes voice synthesizing names on the user list.

8. A method as claimed in claim 6 wherein the step of presenting includes displaying names on the user list on a display associated with the telephone.

9. A method as claimed in claim 6 wherein the step of presenting includes playing back prerecorded names on the user list.

10. A method as claimed in claim 1 wherein the step of selecting includes the step of receiving a DTMF command from the telephone user.

11. A method as claimed in claim 1 wherein the step of selecting includes the step of receiving a voice command from the telephone user.

12. A method as claimed in claim 1 wherein the step of selecting includes the step of receiving a proprietary signal from the telephone.

13. A method as claimed in claim 1 wherein the step of sending a message includes recording and sending a voice message.

14. A method as claimed in claim 1 wherein the step of sending a message includes sending a prerecorded voice message.

15. A method as claimed in claim 1 wherein the step of sending a message includes sending a prerecorded text message.

16. A method as claimed in claim 1 wherein the step of sending a message includes sending a text transcription of a voice message.

17. A method as claimed in claim 1 further comprising the steps of receiving an instant message in response the message sent by the telephone user and notifying the telephone user of the receipt of the message.

18. A method as claimed in claim 1 wherein the step of sending a message includes the telephone user's telephone number and a duration of time the telephone user will be available at that number.

19. A method as claimed in claim 18 further comprising the steps of, during the duration of time, receiving an instant message in response the message sent by the telephone user and notifying the telephone user of the receipt of the message at the telephone user's telephone number.

20. A method as claimed in claim 1 wherein the step of presenting includes the steps of first determining whether the telephone user is logged onto the data network and if not then presenting the user list.

5   21. A method as claimed in claim 20 wherein the step of determining whether the telephone user is logged onto the data network includes determining if the telephone subscriber is a personal communications subscriber and, if the user is, maintaining a presence in the data network for the telephone user for receiving and forwarding

10   instant messages to the telephone user.

22. Apparatus for accessing instant messaging from a telephone comprising:

an telephone interface for connection to a telephone network;

15   an data interface for connection to a data network; and

a messaging module for presenting a user list of active data network users to a telephone user via the telephone interface and responsive to the telephone user selecting a particular user from the user list, sending a message from the telephone user to the selected

20   data network user via the data interface using an instant messaging protocol.

23. Apparatus as claimed in claim 22 wherein the messaging module includes a call-back feature for notifying the telephone user when an instant messaging reply is received for the

25   telephone user.

24. Apparatus as claimed in claim 22 wherein the data network is a local area network (LAN).

25. Apparatus as claimed in claim 22 wherein the data network is a wide area network (WAN).

30   26. Apparatus as claimed in claim 22 wherein the data network is an intranet.

27. Apparatus as claimed in claim 22 wherein the data network is an internet.

28. Apparatus as claimed in claim 22 wherein the messaging module is a portion of a voice messaging system in the telephone network.

29. Apparatus as claimed in claim 22 wherein the messaging module is a portion of a server in the data network.

30. Apparatus as claimed in claim 22 wherein the messaging module is a portion of a voice messaging system within a personal computer connected to the data network.

31. Apparatus as claimed in claim 22 wherein the messaging module is a portion of a voice messaging system coupled to the telephone network.

32. Apparatus as claimed in claim 22 wherein the messaging module is a portion of a telephone network service.

33. A method of accessing instant messaging on the data network at a telephone comprising the steps of:

identifying a subscriber, a telephone number at which they can receive messages, and a period of time for which they can receive messages at this number;

establishing the user's presence and ability to receive instant messages on the data network during the specified time period;

where an instant message is sent to the subscriber during this period of availability, calling the subscriber at the predetermined telephone number and delivering the message.

34. A method of accessing instant messaging on a data network at a telephone comprising the step of:

identifying a telephone user as a subscriber, a telephone number at which they can received messages, and a period of time for which they can receive messages at this number;

establishing the subscriber's presence and ability to receive instant messages on the data network during the specified time period;

presenting to the subscriber a subset of a predetermined user list, the subset representing users logged onto a data network;

5   responsive to the subscriber selecting a particular user from the subset of the predetermined user list, sending a message from the subscriber to the selected data network user using an instant messaging protocol.

35.   A method as claimed in claim 34 wherein the step
10   of presenting occurs upon receipt of a predetermined command from the subscriber.

36.   A method as claimed in claim 35 wherein the step of presenting includes voice synthesizing names on the user list.

37.   A method as claimed in claim 35 wherein the step
15   of presenting includes playing back prerecorded names on the user list.

38.   A method as claimed in claim 35 wherein the step of presenting includes displaying names on the user list on a display associated with the telephone.

39.   A method as claimed in claim 34 wherein the step
20   of presenting occurs automatically upon login by the subscriber.

40.   A method as claimed in claim 39 wherein the step of presenting includes voice synthesizing names on the user list.

41.   A method as claimed in claim 39 wherein the step of presenting includes displaying names on the user list on a display
25   associated with the telephone.

42.   A method as claimed in claim 39 wherein the step of presenting includes playing back prerecorded names on the user list.

43.   A method as claimed in claim 34 wherein the step of selecting includes the step of receiving a DTMF command from the
30   subscriber.

44.   A method as claimed in claim 34 wherein the step of selecting includes the step of receiving a voice command from the telephone user.

45.   A method as claimed in claim 34 wherein the step of selecting includes the step of receiving a proprietary signal from the telephone.

46.   A method as claimed in claim 34 wherein the step of sending a message includes recording and sending a voice message.

47.   A method as claimed in claim 34 wherein the step of sending a message includes sending a prerecorded voice message.

48.   A method as claimed in claim 34 wherein the step of sending a message includes sending a prerecorded text message.

49.   A method as claimed in claim 34 wherein the step of sending a message includes sending a text transcription of a voice message.

50.   A method as claimed in claim 34 further comprising the steps of receiving an instant message in response the message sent by the telephone user and notifying the telephone user of the receipt of the message.

51.   A method as claimed in claim 34 wherein the step of sending a message includes the telephone user's telephone number and a duration of time the telephone user will be available at that number.

52.   A method as claimed in claim 50 further comprising the steps of, during the duration of time, receiving an instant message in response the message sent by the telephone user and notifying the telephone user of the receipt of the message at the telephone user's telephone number.

53.   A method as claimed in claim 34 wherein the step of presenting includes the steps of first determining whether the

telephone user is logged onto the data network and if not then
presenting the user list.

54.   A method as claimed in claim 53 wherein the step
of determining whether the telephone user is logged onto the data

5   network includes determining if the telephone subscriber is a personal
communications subscriber and if the user is, maintaining a presence
in the data network for the telephone user for receiving and forwarding
instant messages to the telephone user.

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Abstract Of The Disclosure

The present invention allows Internet instant messaging to be accessed via a telephone.   Instant messaging access from any

5   telephone in the world may be provided via a telephone messaging system. Alternatively, access can be embodied independently as a stand-alone telephone service, for example provided by a telephone company, provided by a company network, or provided by a user's personal IVR service implemented on his PC. An advantage of the

10   present invention is providing simple, cost effective and readily available access to data network instant messaging from a telephone.
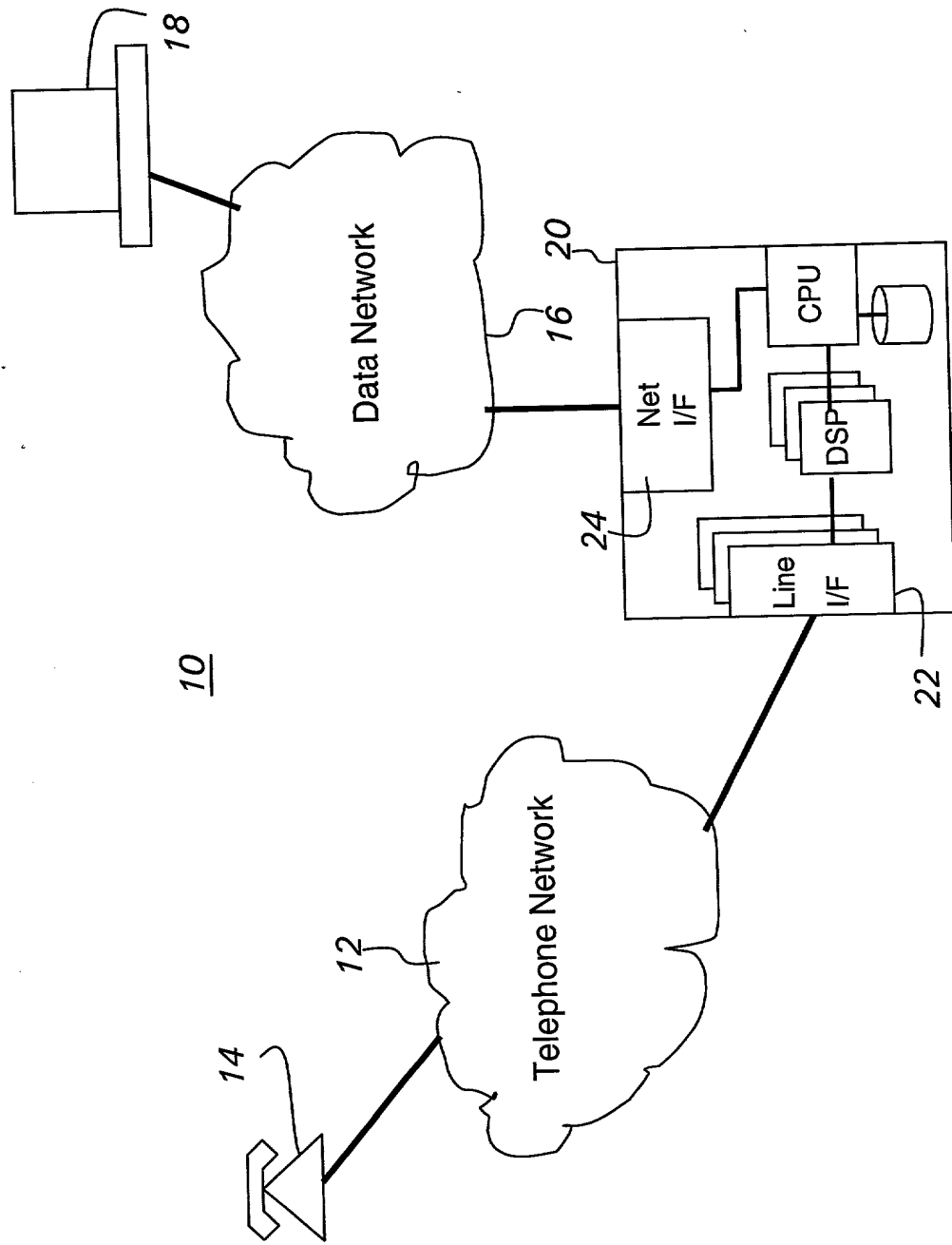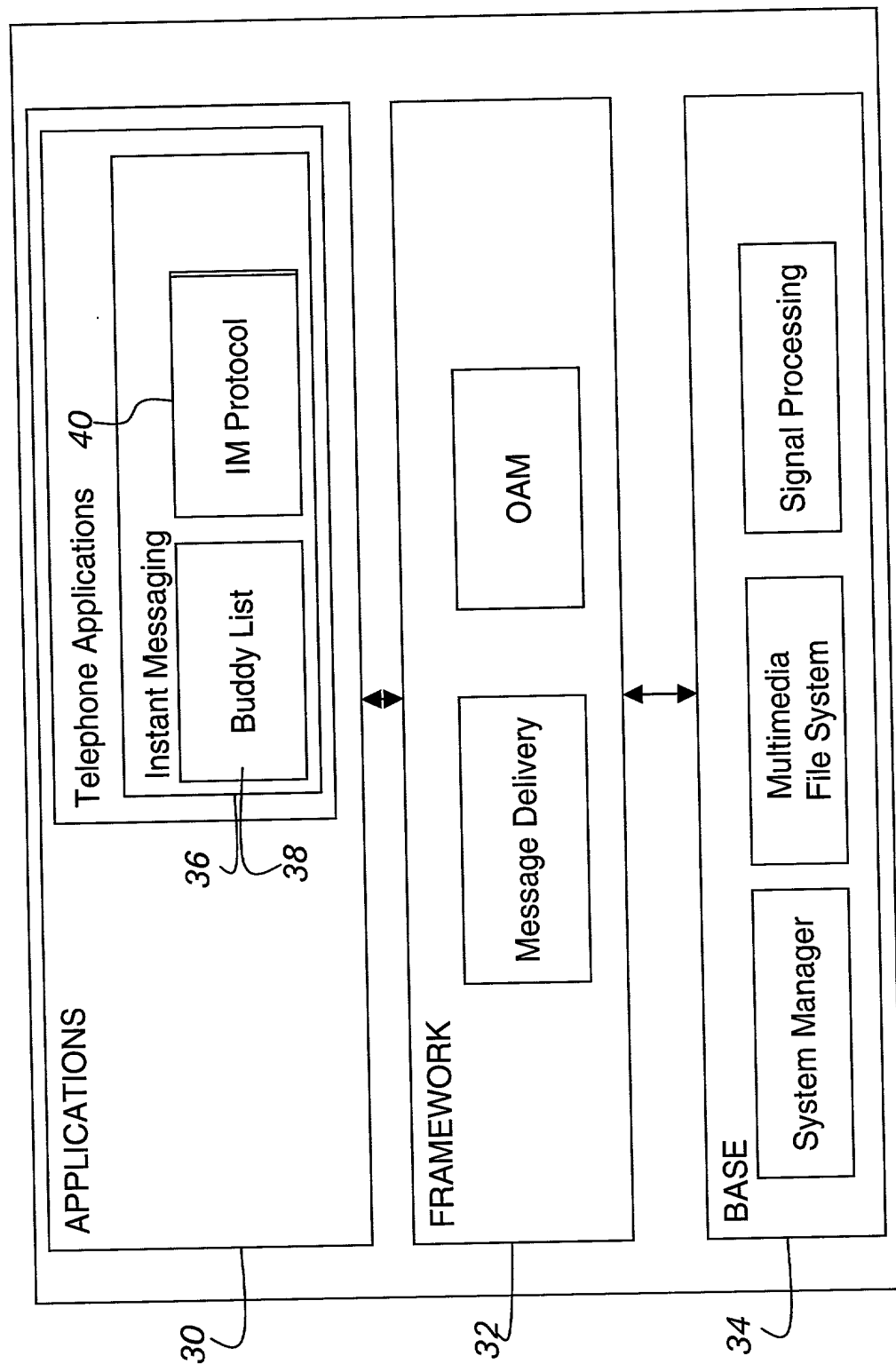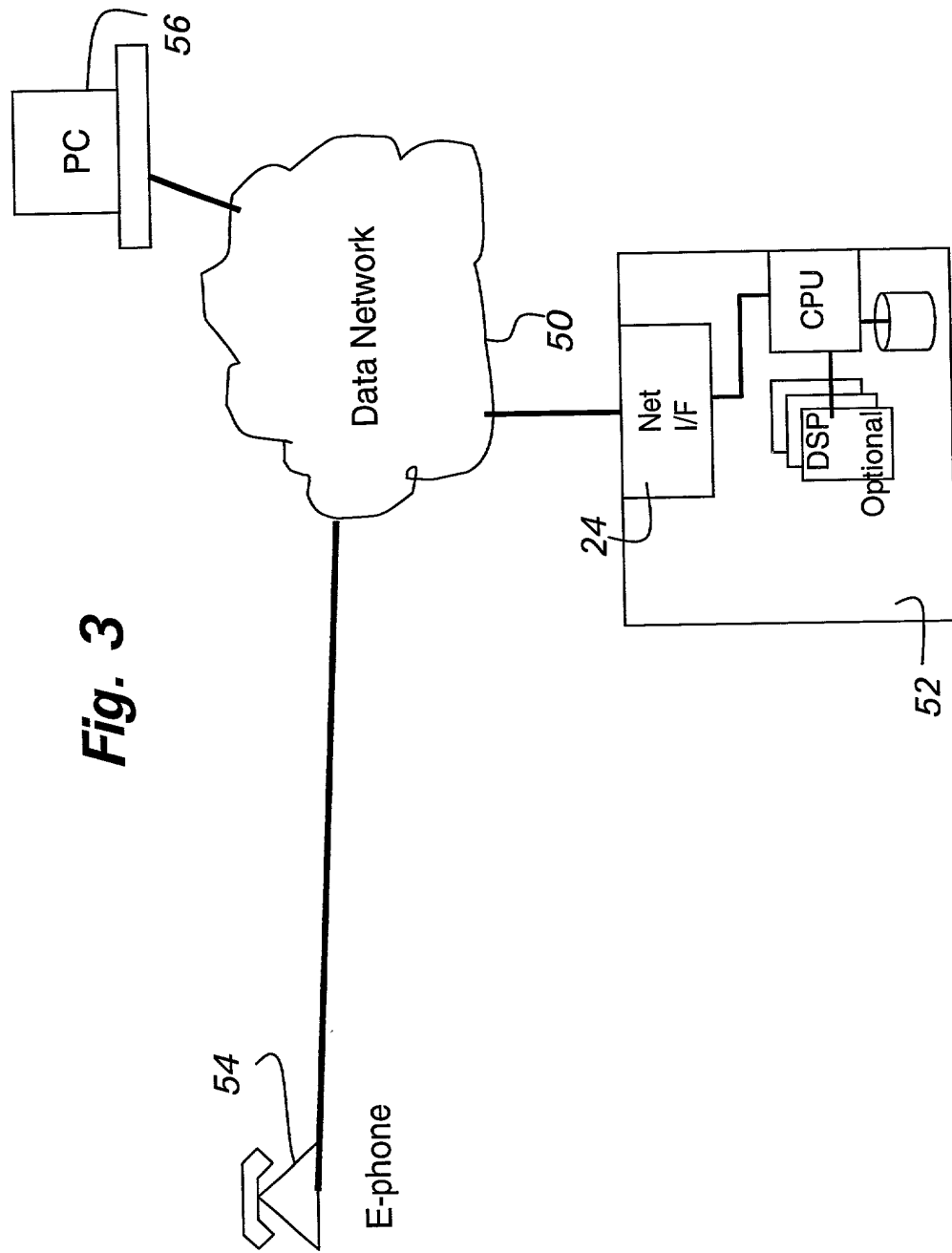
Fig. 1

10

18

Data Network

16
20

Net I/F

CPU

DSP

24

Line I/F

22

Telephone Network

12

14

APPLICATIONS

Telephone Applications *40*

Instant Messaging

| Buddy List | IM Protocol |

36

38

30

FRAMEWORK

| Message Delivery | OAM |

32

BASE

| System Manager | Multimedia File System | Signal Processing |

34

Fig. 2

Fig. 3

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF AGENT

Case: 11559STUS02U

As a below-named Inventor, I hereby declare that:
My Residence, Post Office address and Citizenship are as stated below next to my name.

☐ I believe that I am the original, first and sole inventor

☒ I believe I am an original, first and joint inventor

of the subject matter which is claimed and for which a patent is sought on the invention entitled:

TELEPHONE BASED ACCESS TO INSTANT MESSAGING

the Specification of which

☒ is attached hereto

☐ was filed on _____ as U.S. Application or PCT International Application No. _____

☐ and was amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified Specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the Examination of the Application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign Application(s) for Patent or Inventor's Certificate listed below and have also identified below any foreign Application for Patent or Inventor's Certificate having a filing date before that of the Application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)

Priority Claimed

Number: __2,288,573__ Country: __Canada__ Date Filed: __November 8, 1999__ __Yes__

Number: _____ Country: _____ Date Filed: _____ _____

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional Application(s) listed below.

Application Number: _____ Date Filed: _____

Application Number: _____ Date Filed: _____

I hereby claim the benefit under Title 35, United States Code, §120 of any United States Application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States Application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the National or PCT International filing date of the Application.

Application Number: _____ Date Filed: _____ Status: _____

Application Number: _____ Date Filed: _____ Status: _____

Application Number: _____ Date Filed: _____ Status: _____

I hereby appoint **Dallas F. Smith** c/o Nortel Networks Limited, Intellectual Property Law Group, P.O. Box 3511, Station C, Ottawa, Ontario, Canada, K1Y 4H7, Registration No. 34,074 and telephone no. (613) 768-3014 as my Agent to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application or any Patent issued thereon.

Full Name of First or Sole Inventor: John C. MYERS	Signature of First Inventor:	Date:
Residence Address: Toronto, Ontario, Canada		Country of Citizenship: Canada
Post Office Address: 80 Front St. East, Suite 718, Toronto, Ontario, Canada M5E 1T4		
Full Name of Second Inventor (if any): Paul M. BRENNAN	Signature of Second Inventor:	Date:
Residence Address: Toronto, Ontario, Canada		Country of Citizenship: Canada
Post Office Address: 174 Parkhurst Boulevard, Toronto, Ontario, Canada M4G 2G1		
Full Name of Third Inventor (if any):	Signature of Third Inventor:	Date:
Residence Address:		Country of Citizenship:
Post Office Address:		

Signatures should conform to names as typewritten. ☐ Additional inventors on attached Page 2

Form NTP (05/00)